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CONCERNING ELECTRICAL CURRENT COLLECTION DURING TENSIOMETRY MEASUREMENTS WITH A TENSOMETER

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"CONCERNING ELECTRICAL CURRENT COLLECTION DURING MEASUREMENTS WITH A TENSOMETER ~~A DEVICE FOR MEASURING DEFORMATIONS (STRAINS) IN A LOADED MECHANISM~~"

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Note: the following is an extended abstract of an article that appeared in the monthly Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk (News of the Academy of Sciences USSR, Department of Technical Sciences), No. 1 (January 1948), pages 19-22. The original article was submitted 9 August 1947 by academician Ye. A. Chudakov. It represents a report read at the Scientific-Technical Conference on the Dynamics and Strength of Crankshafts which was given by the Institute of Machine ~~Science~~ Studies, Academy of Sciences USSR, and by the All-Union Scientific and Technical Society of Machine Building (VNITOMASH) in March 1947.

The author's name, G. Ye. Rudashevskiy, may have once appeared in the partly French and partly German transliteration: 'G. E. Rudachevskij,' which should not be used.

During tensometric measurements of the running (revolving) elements of a machine, the current-collecting device represents an essential part of the apparatus (often determining the success of the entire operation). With the help of this device we can realize an electrical connection between the transmitting elements (running together with the machine's elements under investigation) and the remaining part of the apparatus located a certain distance away. Current-collecting devices are made differently, in each particular case, on the authors' experience and personal considerations. In the literature, the problem has not received sufficient clarification until now.

In the present work I discuss the problem concerning the collection of electrical currents with sliding contacts during tensometric measurements. I formulate the main conditions determining the operation of current-collection and analyze them. I also discuss a certain wiring circuit for current collection, and give a qualitative evaluation of the errors which can be introduced by a current-collector as a result of measurements during its employment in this or other circuit schemes.

[Note: The author proceeds to list the mentioned conditions determining subject operation.]

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